

<p style="text-align: center;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> <p style="text-align: center;">(use as many sheets as necessary)</p>				Complete if Known				
				Application Number		09/904,175		
				Filing Date		July 11, 2001		
				First Named Inventor		DUONG, Hau		
				Art Unit		1634		
				Examiner Name		FORMAN, Betty J.		
Sheet	1	of	13	Attorney Docket Number				A-68718-3 (463037-00219)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
W	A1	4,908,319	03-13-1990	Smyczek et al.	
	A2	4,945,045	07-31-1990	Forrest et al.	
	A3	5,038,852	08-13-1991	Johnson et al.	
	A4	5,100,775	03-31-1992	Smyczek et al.	
	A5	5,108,573	04-28-1992	Rubinstein et al.	
	A6	5,126,022	06-30-1992	Soane et al.	
	A7	5,126,034	06-30-1992	Carter et al.	
	A8	5,143,854	09-01-1992	Pirrung et al.	
	A9	5,147,607	09-15-1992	Mochida	
	A10	5,187,096	02-16-1993	Glaver et al.	
	A11	5,192,412	03-09-1993	Kambara et al.	
	A12	5,194,133	03-16-1993	Clark et al.	
	A13	5,200,051	04-06-1993	Cozzette et al.	
	A14	5,242,828	09-07-1993	Bergstrom et al.	
	A15	5,278,043	01-11-1994	Bannwarth et al.	
	A16	5,294,369	03-15-1994	Shigekawa et al.	
	A17	5,296,375	03-22-1994	Kricka et al.	
	A18	5,320,808	06-14-1994	Holen et al.	
	A19	5,360,741	11-01-1994	Hunnell	
	A20	5,391,272	02-21-1995	O'Daly et al.	
	A21	5,443,701	08-22-1995	Willner et al.	
	A22	5,474,796	12-12-1995	Brennan	
	A23	5,500,071	03-19-1996	Kaltenbach et al.	
	A24	5,532,128	07-02-1996	Eggers et al.	
	A25	5,545,531	08-13-1996	Rava et al.	
	A26	5,552,270	09-03-1996	Khrapko et al.	
	A27	5,565,322	10-15-1996	Heller	
	A28	5,573,906	11-12-1996	Bannwarth et al.	
	A29	5,595,712	01-21-1997	Harbster et al.	
	A30	5,599,695	02-04-1997	Pease et al.	
W	A31	5,601,982	02-11-1997	Sargent et al.	

Examiner Signature	<i>M</i>	Date Considered	<i>10/05</i>
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U.S. PATENT DOCUMENTS					
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	A32	5,605,662	02-25-1997	Heller et al.	
	A33	5,620,850	04-15-1997	Barndad et al.	
	A34	5,631,734	05-20-1997	Stern et al.	
	A35	5,632,957	05-27-1997	Heller et al.	
	A36	5,653,939	08-05-1997	Hollis et al.	
	A37	5,657,208	08-12-1997	Noe et al.	
	A38	5,670,322	09-23-1997	Eggers et al.	
	A39	5,716,825	02-10-1998	Hancock et al.	
	A40	5,750,015	05-12-1998	Soane et al.	
	A41	5,755,942	05-26-1998	Zanzucchi et al.	
	A42	5,759,866	06-02-1998	Machida et al.	
	A43	5,837,832	11-17-1998	Chee et al.	
	A44	5,842,787	12-00-1998	Kopf-Sill et al.	
	A45	5,843,655	12-01-1998	McGall	
	A46	5,843,767	12-01-1998	Beattie	
	A47	5,846,708	12-08-1998	Hollis et al.	
	A48	5,849,486	12-15-1998	Heller et al.	
	A49	5,856,174	01-05-1999	Lipshutz et al.	
	A50	5,858,193	01-12-1999	Zanzucchi et al.	
	A51	5,861,242	01-19-1999	Chee et al.	
	A52	5,863,502	01-26-1999	Southgate et al.	
	A53	5,871,918	02-16-1999	Thorp et al.	
	A54	5,874,046	02-23-1999	Megerle	
	A55	5,874,219	02-23-1999	Rava et al.	
	A56	5,891,630	04-06-1999	Eggers et al.	
	A57	5,922,591	07-13-1999	Anderson et al.	
	A58	5,929,208	07-27-1999	Heller et al.	
	A59	5,935,401	08-10-1999	Amigo	
	A60	5,939,312	08-17-1999	Baier et al.	
	A61	5,942,443	08-24-1999	Parce et al.	
	A62	5,945,334	08-31-1999	Besemer et al.	

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W	A63	5,958,791	09-28-1999	Roberts et al.	
	A64	5,965,452	10-12-1999	Kovacs	
	A65	5,971,355	10-26-1999	Biegelsen et al.	
	A66	5,985,119	11-16-1999	Zanzucchi et al.	
	A67	5,991,030	11-23-1999	Yamamoto et al.	
	A68	6,117,973	09-12-2000	Batz et al.	
W	A69	6,288,221 B1	09-11-2001	Grinstaff et al.	

FOREIGN PATENT DOCUMENTS					
Examiner Initials:	Cite No. ¹	Foreign Patent Document Country Code ³ Number ⁴ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
W	B1	DE 1 9725 190 ✓	12-17-1998	Innova GmbH	Abstract only
✓	B2	EP 0 142 301 ✓	05-22-1985	Serono Diagnostics Limited	
✓	B3	EP 0 213 825 ✓	03-11-1987	Molecular Devices Corp	
	B4	EP 0 339 821 A1	11-02-1989	United Kingdom Atomic Energy Authority	
W	B5	EP 0 854 362 A2 ✓	07-22-1998	Japan Science & Technology Corp	
	B6	EP 0 859 230 A1 ✓	08-19-1998	Cranfield University	
	B7	EP 0 870 541 A2 ✓	10-14-1998	Eastman Kodak Co.	
	B8	EP 0 969 083 A1 ✓	01-05-2000	Olympus Optical Co. Ltd.	
	B9	JP 11-183437 A ✓	07-01-1999	Shimadzu Corp.	Abstract only
	B10	JP 63-238166 A ✓	10-04-1988	Mitsubishi Corp.	Abstract only
	B11	WO 97/09337 A1 ✓	03-00-1997	Deutsches Krebsforschungszentrum Stiftung des Öffentlichen Rechts	Abstract only
	B12	WO 98/50154 A1 ✓	11-00-1998	University of Minnesota	Abstract only
	B13	WO 93/22053 A1 ✓	11-11-1993	The Trustees of the University of Pennsylvania	
	B14	WO 93/22678 A2/A3 ✓	11-11-1993	Massachusetts Institute of Technology	
W	B15	WO 93/25898 A1 ✓	12-23-1993	Medisense, Inc.	

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✓	B16	WO 94/22889 A1 ✓	10-13-1994	Cis Bio International		
	B17	WO 95/11755 A1 ✓	05-04-1995	Houston Advance Research Center	Abstract only	
	B18	WO 97/12030 A1	04-03-1997	Nanogen, Inc.		
	B19	WO 97/27324 A1 ✓	07-31-1997	David Samoff Research Center		
	B20	WO 97/27473 A1 ✓	07-31-1997	Northwestern University		
	B21	WO 97/31256 A1	08-28-1997	Cornell Research Foundation, Inc.		
	B22	WO 97/36681 A1 ✓	10-09-1997	Perkin Elmer Corp.		
	B23	WO 97/41425 A1 ✓	11-06-1997	Pence, Inc.		
	B24	WO 97/44651 A1 ✓	11-27-1997	Australian Membrane and Biotechnology Institute		
	B25	WO 98/01758 A1 ✓	01-15-1998	Nanogen, Inc.		
	B26	WO 98/15893 A1 ✓	04-16-1998	Advanced Risc Mach Ltd.		
	B27	WO 98/27229 A1 ✓	06-25-1998	University of Chicago		
	B28	WO 98/28444 A2/A3 ✓	07-02-1998	University of Chicago		
	B29	WO 98/43739 A2/A3	10-08-1998	Biosite		
	B30	WO 98/49344 A1 ✓	11-05-1998	Lockheed Martin Energy Research Corp.		
	B31	WO 98/49557 A1 ✓	11-05-1998	B-E Safe, Inc.		
	B32	WO 99/07879 A1 ✓	02-18-1999	Fraunhofer Inst. Siliziumtechno, Univ. of Souther CA		
	B33	WO 99/14596 A1 ✓	03-25-1999	AB Sangtec Medical		
	B34	WO 99/17093 A1 ✓	04-09-1999	The Regents of the University of Michigan		
	B35	WO 99/26729 A1 ✓	06-03-1999	Universite de Montreal		
	B36	WO 99/29711 A1 ✓	06-17-1999	Nanogen, Inc.		
	B37	WO 01/34302 A2 ✓	05-17-2001	Motorola, Inc.		
	B38	WO 01/42508 A2 ✓	06-14-2001	Motorola, Inc.		
	B39	WO 01/54813 A2/A3 ✓	08-02-2001	Clinical Micro Sensors, Inc.		

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	C1	AIZAWA, M., et al., "Integrated molecular systems for biosensors," <i>Sens. Actuators B Chem.</i> 24(1&3):1-5 (Mar. 1995).			T ⁴
	C2	ALBERS, W., et al., "Design of novel molecular wires for realizing long-distance electron transfer," <i>Bioelectrochem. Bioenerg.</i> 42(1):25-33 (Apr. 1997).			
	C3	ALSFASSEN, R., et al., "Novel Building Blocks for Biomimetic Assemblies. Synthesis, Characterization, and Spectroscopic and Electrochemical Properties of New Bidendate Ligands Derived from Lysine and Cystine and Their Complexes with Bis(2,2'-bipyridine)ruthenium(II)," <i>Inorg. Chem.</i> 35(3):628-636 (Jan. 1996).			
	C4	ARKIN, M., et al., "Evidence for Photoelectron Transfer Through DNA Intercalation," <i>J. Inorg. Biochem. Abstr.</i> , 6th Int. Conf. Bioinorg. Chem. 51(1&2):526 (1993).			
	C5	ARKIN, M., et al., "Rates of DNA-Mediated Electron Transfer Between Metallointercalators," <i>Science</i> 273(5274):475-480 (Jul. 1996).			
	C6	BEATTIE, K., et al., "Advances in Genosensor Research", <i>Clin. Chem.</i> 41(5):700-706 (1995).			
	C7	BECKER, H., et al., "Microfluidic manifolds by polymer hot embossing for μ -TAS applications," <i>Micro Total Analysis Systems '98, Proc. μ-TAS '98</i> , pp. 253-256, Banff, BC, CA (Oct. 13 - 16, 1998).			
	C8	BELGRADER, P., et al., "Rapid pathogen detection using a microchip PCR array instrument," <i>Clin. Chem.</i> 10(44):2191-2194 (1998).			
	C9	BIGNOZZI, C., et al., "A simple poly(pyridine)ruthenium(II) photosensitizer: (2,2'-bipyridine)tetra(cyanoruthenate(II))," <i>J. Am. Chem. Soc.</i> 108(24):7872-7873 (Nov. 1986).			
	C10	BILEWICZ, R., et al., "Monomolecular Langmuir-Blodgett films at electrodes: electrochemistry at single molecule 'gate sites'," <i>Langmuir</i> 11(6):2256-2266 (Jun. 1995).			
	C11	BJERRUM, M., et al., "Electron transfer in ruthenium-modified proteins," <i>J. Bioenerg. Biomembr.</i> 27(3):295-302 (Jun. 1995).			
	C12	BLONDER, R., et al., "Application of Redox Enzymes for Probing the Antigen-Antibody Association at the Monolayer Interfaces: Development of Amperometric Immunosensor Electrodes," <i>Anal. Chem.</i> 68(18):3151-3157 (Sep. 1996).			
	C13	BOWLER, B.E., et al., "Long-Range electron transfer in donor (spacer) acceptor molecules and proteins," <i>Prog. Inorg. Chem. Bioinorg. Chem.</i> 38:259-322 (1990).			
	C14	BRUN, A., et al., "Photochemistry of intercalated quaternary diazaaromatic salts," <i>J. Am. Chem. Soc.</i> 113(21):8153-8159 (Oct. 1991).			
	C15	BUMM, L.A., et al., "Are single molecular wires conducting?," <i>Science</i> 271(5226):1705-1707 (Mar. 1996).			
	C16	CARLSSON, C., et al., "Screening for genetic mutations," <i>Nature</i> 380(6571):207 (Mar. 1996).			
	C17	CARTER, M., et al., "Electrochemical Investigations of the interaction of metal chelates with DNA. 3. Electrogenerated chemiluminescent Investigation of the interaction of tris(1,10-phenanthroline)ruthenium(II) with DNA," <i>Bioconjug. Chem.</i> 1(4):257-263 (Jul. - Aug. 1990).			

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M	C18	CARUANA, D. J., et al., "Enzyme-amplified amperometric detection of hybridization and of a single base pair mutation in an 18-base oligonucleotide on a 7-μm-diameter microelectrode," <i>J. Am. Chem. Soc.</i> 121(4):769-774 (Feb. 1999).	
	C19	CHAILAPAKUL, O., et al., "Interactions between organized, surface-confined monolayers and liquid-phase probe molecules. 4. Synthesis and characterization of nanoporous molecular assemblies: mechanism of probe penetration," <i>Langmuir</i> 11(4):1329-1340 (Apr. 1995).	
	C20	CHARYCH, D., et al., "Direct colorimetric detection of a receptor-ligand interaction by polymerized bilayer assembly," <i>Science</i> 261(5121):585-588 (Jul. 1993).	
	C21	CHENG, J., et al., "Selectivity and sensitivity of self-assembled thiolic acid electrodes," <i>Anal. Chem.</i> 64(17):1998-1999 (Sep. 1992).	
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	C23	CLARKE, P.R., et al., "Physical and chemical aspects of ultrasonic disruption of cells," <i>J. Acoustics Soc. Am.</i> 50(2):649-653 (Feb. 1970).	
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W	C35	DURHAM, B., et al., "Photoinduced electron-transfer kinetics of singly labeled ruthenium bis(bipyridine) dicarboxybipyridine cytochrome c derivatives," <i>Biochemistry</i> 28(21):8659-8665 (Oct. 1989).	
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W	C71	KIM et al., "The Fabrication of Flow Conduits in Ceramic Tapes and the Measurement of Fluid Flow Through These Conduits," <i>Micro Total Analysis Systems '98, Proc. μ-TAS '98</i> , pp. 171-177, Banff, BC, (CA) (Oct. 13 - 16, 1998).			
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✓	C89	MIR, K., et al., "Determining the influence of structure on hybridization using oligonucleotide arrays," <i>Nat. Biotechnol.</i> 17(8):788-792 (Aug. 1999).	
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✓	C104	OSBOURN, D., et al., "Cellulose acetate decoupler for on-column electrochemical detection in capillary electrophoresis," <i>Anal. Chem.</i> 73(24):5961-5964 (Dec. 2001).	
✓	C105	PARINOV, S., "DNA Sequencing by hybridization to microchip octa- and decanucleotides extended by stacked pentanucleotides," <i>Nucleic Acids Res.</i> 24(15):2998-3004 (Aug. 1996).	

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				Art Unit	1634
				Examiner Name	FORMAN, Betty J.
Sheet	11	of	13	Attorney Docket Number	A-68718-3 (463037-00219)

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W	C106	POTYRAILO, R., et al., "Adapting selected nucleic acid ligands (aptamers) to biosensors," <i>Anal. Chem.</i> 70(16):3419-3425 (Aug. 1998).	
	C107	PREZYNA, L., et al., "Interaction of catatonic polypeptides with electroactive polypyrrole/poly(styrenesulfonate) and poly(n-methylpyrrole)/poly(styrenesulfonate) films," <i>Synth. Metals</i> 41(3):979-981 (May. 1991).	
	C108	REIMERS, J.R., et al., "Toward efficient molecular wires and switches: the brooker ions," <i>BioSystems</i> 35:107-111 (1995).	
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	C113	SABATANI et al., "Thioaromatic monolayers on gold: a new family of self-assembling monolayers," <i>Langmuir</i> 9(11):2974-2981 (Nov. 1993).	
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	C118	SCHLERETH, D., et al., "Self-assembled monolayers with biospecific affinity for lactate dehydrogenase for the electroenzymatic oxidation of lactate," <i>J. Electroanal. Chem.</i> 431(2):285-295 (Jul. 1997).	
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	C120	SCHUMM, J., et al., "Iterative Divergent/Convergent Approach to Linear Conjugated Oligomers by Successive Doubling of the Molecular Length: A Rapid Route to a 128 Å-Long Potential Molecular Wire," <i>Angew. Chem. Int. Ed. Engl.</i> 33(13):1360-1363 (Jul. 1994).	
	C121	SHAW, T., et al., "Active-Pixel-Sensor Digital Camera on a Single Chip," <i>NASA Tech Briefs</i> 420:44-46 (1998).	
	C122	SMALLEY, J., et al., "Kinetics of Electron Transfer through Ferrocene-Terminated Alkanethiol Monolayers Gold," <i>J. Phys. Chem.</i> 99(35):13141-13149 (Aug. 1995).	
W	C123	SMITH, E., et al., "Corticotropin releasing factor induction of leukocyte-derived immunoreactive ACTH and endorphins," <i>Nature</i> 321(6073):881-882 (Jun. 1986).	

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✓	C124	SMITH, L., et al., "Mapping and Sequencing the Human Genome: How to Proceed," <i>Biotechnology</i> 5:933-942 (1987).			
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	C135	THORP, H., et al., "Cutting out the middleman: DNA biosensors based on electrochemical oxidation," <i>Trends Biotechnol.</i> 16(3):117-121 (Mar. 1998).			
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	C137	TOPFER, M. L., "Technology," <i>Thick-Film Microelectronics: Fabrication, Design, and Applications: Microelectronics Series</i> , pp. 41-59, Van Nostrand Reinhold Co., New York, NY (1971).			
	C138	TSUKAHARA, K., "Kinetics and mechanisms of reduction of metmyoglobins. Importance of the geometry change at the heme iron site upon reduction," <i>J. Am. Chem. Soc.</i> 111(6):2040-2044 (Mar. 1989).			
	C139	TSUNEO, M., et al., "Coumarin-fluorescein pair as a new donor-acceptor set for fluorescence energy transfer study of DNA," <i>Tetrahedron Lett.</i> 41(15):2605-2608 (2000).			
✓	C140	TULLIUS, T.D., et al., "Iron(II) EDTA used to measure the helical twist along any DNA molecule," <i>Science</i> 230(4726):679-681 (Nov. 1985).			

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W	C141	TURYAN, I., et al., "Selective Determination of Cr(VI) by Self-Assembled Monolayer-Based Electrode," <i>Anal. Chem.</i> 69(5):894-897 (Mar. 1997).	
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	C144	WASHIZU, M., et al., "Applications of Electrostatic Stretch-and-Positioning of DNA," <i>IEEE Trans. Ind. Appl.</i> 31(3):447-457 (May - Jun. 1995).	
	C145	WEBSTER et al., "An inexpensive plastic technology for microfabricated capillary electrophoresis chips," <i>Micro Total Analysis Systems '98, Proc. μ-TAS '98</i> , pp. 249-252, Banff, BC, CA (Oct. 13 - 16, 1998).	
	C146	WELCH, T., et al., "Distribution of metal complexes bound to DNA determined by normal pulse voltammetry," <i>J. Phys. Chem.</i> 100(32):13829-13836 (Aug. 1996).	
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	C148	WILDING, P., et al., "PCR in a silicon microstructure," <i>Clin. Chem.</i> 40(9):1815-1818 (Sep. 1994).	
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	C150	WILLNER, I., et al., "Application of photoisomerizable antigenic monolayer electrodes as reversible amperometric immunosensors," <i>J. Am. Chem. Soc.</i> 116(20):9365-9366 (Oct. 1994).	
	C151	WILLNER, I., et al., "Development of novel biosensor enzyme electrodes: glucose oxidase multilayer arrays immobilized onto self-assembled monolayers on electrodes," <i>Adv. Mater.</i> 5(12):912-915 (1993).	
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	C154	WILLNER, I., et al., "Photoswitchable biomaterials as grounds for optobioelectronic devices," <i>Bioelectrochem. Bioenerg.</i> 42(1):43-57 (1997).	
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W	C156	ZEHNER, R., et al., "Electrochemical evaluation and enhancement via heterogeneous exchange of the passivating properties and stability of self-assembled monolayers derived from the rigid rod arenethiols, X - C ₈ H ₄ -C≡C ₈ H ₄ -C≡C-C ₆ H ₄ -SH (X = H and F)," <i>Langmuir</i> 13(11):2973-2979 (May 1997).	

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